doctor who does not look through the advertisements in such journals, is not keeping up to date. New instruments, new books, new preparations or statements of newly discovered facts about older ones, are here presented to you. Proper advertising is as much a part of a modern periodical as is proper reading matter, and it is quite as valuable both to the reader and to the publisher. It is a mistake to belittle the importance, to you, of the advertising pages of the publications you read—if they are high-class and reliable. It is a mistake to think that you are doing the advertiser a favor by reading his advertisement; very often it is just the other way around, and the advertiser is telling you the one thing you ought and want to know. It pays to read advertisements.

## AN IMPROVED TECHNIC OF VACCINATION.*

During the past four years in the children's clinic of Cooper Medical College, over eleven hundred children have been vaccinated with the following simple technic:

The area to be vaccinated is thoroughly cleansed with green soap and alcohol, and then allowed to dry. A piece of sterile gauze, consisting of two layers, is placed over the operator's index finger, and the area is rubbed with considerable pressure, from above downward until the superficial epithelium is removed, and serum exudes from the surface. In this manner an area a square inch in diameter can be prepared in a very short time, no blood flows, there is absolutely no discomfort to the child, and a clean red surface is left for the application of the vaccine. After this is done the point covered with the vaccine is applied, rubbed for about thirty seconds over the denuded area, and the excoriation left uncovered to dry.

In this series of cases no dressings, such as shields of any kind, tight bandages, or adhesive plaster were used but a simple dressing applied as follows: A piece of sterile gauze six inches square, and four or five layers in thickness is placed over the vaccinated area, and pinned to the overlying garment, or undershirt. The parents are directed to place a clean piece of gauze over the wound every night, with no bandages or applications, and at the end of a week the child is brought back to the clinic for observation.

The advantages of this method are that there is, no instrument used for excoriation, which will frighten the child, pain from the denudation of the area is eliminated, and a large, clean, bloodless area is prepared in a very short space of time. The use of shields and tight bandages produce congestion and often infection, and once an infected area is bound down by a tight and dirty shield serious complications result. The loose dressing eliminates infection, is clean, and easily changed daily.

Out of eleven-hundred cases treated in this way at the clinic, only one infection occurred, and this we attributed to a shield bound down by adhesive plaster, put on the child's arm after he left the clinic. H. H. Y.

* From Children's Clinic, Cooper Medical College—Langley Porter, M. D., Chief of Clinic.

## ANTITYPHOID VACCINATION

Experiments on the immunization of animals with typhoid bacilli were reported in 1892, and in 1896 Pfeiffer and Kolle, in Germany, immunized 2 men with dead cultures. About the same time Sir A. E. Wright accomplished the same feat, and as a result of his indefatigable energies in the pursuit of this work, the method was introduced as a prophylactic measure for all soldiers going to the British possessions. The results, however gratifying, were not up to expectations, so that although over 150,000 soldiers had been vaccinated by 1902 and the incidence of the disease reduced one-half, and the mortality two-thirds, the method was discontinued because of some severe reactions following injections. It was later shown that certain defects in the preparation of the vaccines accounted for the relatively poor showing. In 1904, a commission having been appointed to investigate the whole subject, vaccination was re-introduced in the army.

The results of inoculation of the German South African troops were far better, but it was Leischman's report in 1907 of the excellent results obtained in the British Colonial troops, that commanded the attention of all engaged in the field of sanitation. Even the United States Army took official notice, Major Russell in 1908 being sent to England to study the methods and results of Colonel Leischman. On his return, his report was submitted to a board of eight medical officers of which he acted as recorder, and the Surgeon-General as president. The other members were Victor Vaughan, Wm. Councilman, John Musser, Alex. Lambert, Simon Flexner and Wm. Thayer. The board recommended the introduction of antityphoid vaccination in the U. S. Army, and the Surgeon-General immediately instructed medical officers to urge its trial by all volunteers, as well as in their own and the nursing corps. By the first of March, 1909, in a laboratory specially fitted up for the manufacture of the typhoid vaccine, in Washington, the immunization of volunteers was begun.

Major Russell (*Bost. Med. and Surg. Journ.*, Jan. 5, 1911), reports 14,000 persons vaccinated, approximately one-sixth of the force. Of those vaccinated, six have since then been treated for typhoid fever, though in only one was the diagnosis confirmed by laboratory methods. Two of the cases were so mild as to cast a reasonable doubt upon the diagnosis. All six recovered. Among the remainder of the army, during the same length of time, there have been 418 cases, with 32 deaths. Had the entire army been vaccinated, the same rate of incidence would have given only 36 cases rather than 418, a number 15 times smaller.

Such a report of results obtained in our own army, by men working in our very midst, should certainly lead to a more extended trial of the method in our own civil population. As Russell states: "In civil life there are many occasions on which antityphoid vaccine may be used with advantage, as in hospitals receiving typhoid cases. This has

already been done by Richardson and Spooner, in this city, and a beginning has recently been made in one hospital in New York. It is certainly worth while to vaccinate the entire personnel of a hospital if by that means one or two cases of typhoid may be prevented each year. It may also be used to advantage in industrial villages, mining and railway camps, insane asylums and other public institutions, and in schools and colleges."

Spooner inoculated 74 nurses, 9 house officers and 6 ward tenders in the Massachusetts General Hospital. It is over a year since this was done, and up to date no cases of typhoid have been recorded.

The writer vaccinated one nurse immediately after she had acted as donor in an operation for transfusion on a virulent case of typhoid, and another nurse after four weeks of nursing this same case, and at a time when to use her own words: she was very much "run down." Since then he has vaccinated two other persons.

To afford a satisfactory immunity, three injections are given at 10-day intervals. The first dose should be of 500,000,000 bacilli, the second and third doses just double the first. The vaccine should be injected subcutaneously, preferably at the insertion of the deltoid. A local reaction, consisting of redness, swelling and tenderness not infrequently occurs, but in from 48 to 72 hours even the severest have subsided. In 95% of the cases, aside from the possible discomfort associated with a tender arm, there is no other symptom than an occasional headache or slight rise in temperature up to 100°, oftentimes ignored by the subject. The moderate and severe general reactions make up the other 5%, and very few of them are really troublesome. Russell believes that persons who show great susceptibility to the vaccine are those who would present the least resistance to the disease if naturally infected, although this might seem refuted by his own statement that the fact that a man has already had typhoid seems to increase the chance of having a severe reaction. On the 5th or 6th day following the first inoculation, agglutinins appear, and rapidly increase. A Widal reaction is often present in dilutions of 1-5000, occasionally up to 1-20,000.

A careful consideration of all reported results goes to show that the immunity developed may last two years and even longer. The best proof that the reactions are not to be feared, is the fact that no subject has been injected a second or third time without his volunteering to do so. The belief first entertained, that it might be dangerous to inject a person already exposed to the disease,—the fear of the so-called negative phase,—has been shown to be unfounded. There is no doubt but that the present preparation of the vaccines—killing the cultures at a temperature of 53° C. and the addition of lysol after cooling,—will be so perfected as to do away with the possibility of any but mild reactions.

The only objections that can be raised against the prophylactic use of typhoid vaccines are the possibility of an uncomfortable reaction and the fact that immunity does not last a lifetime. Have these same objections to Jennerian vaccination converted many sane physicians to the ranks of anti-vaccinationists? R. B.

## ORIGINAL ARTICLES

### THE COMMITMENT OF THE INSANE IN THE STATE OF CALIFORNIA.*

By A. W. HOISHOLT, M. D., Stockton.

In an address delivered before the California Northern District Medical Society on October 13, 1896, I began this subject with the following sentence: "The lunacy laws relating to the commitment and detention of persons alleged to be insane, which are in effect at the present time in the state of California, have not been essentially modified for twenty years." Fourteen years have elapsed since then, and during this time a new lunacy law has been enacted, and this later modified, but nevertheless the manner in which the welfare of these poor unfortunates is looked after previous to their transfer to the State Hospital is today only to a slight extent an improvement upon what it was then. The new law appeared to provide for better qualified examiners in lunacy by the requirement of an application for appointment as examiner, which for a short time was confined to one, two or more physicians with their alternates, according to the size of the community. Of real educational requirements, however, there were none, and it was but a short time before quite a number of physicians had been appointed in each county, with the exception of the city and county of San Francisco, where the number of examiners has for years been limited to four. In the new law it was provided that the person arrested should be detained five days before commitment would be finally determined upon. This proviso has in the course of time been disregarded so generally that of late it has become a not infrequent observation that persons, in whose cases there was no reason for a hurried transfer, have reached the asylum in 24 to 36 hours from the time of their arrest. There should of course be no routine to be followed in all cases. In very acute mental illness, unnecessary delay should be avoided, while in others, for instance certain alcoholics, a delay of a few days would frequently lead to a convalescence from the self-limited state of delirium tremens, where this had not been recognized.

In certain large communities (in San Francisco, for instance,), the alleged insane are today receiving a little more consideration as to comforts than was the case in 1896. In many smaller communities they are today placed in jail with other prisoners, and are, in general, not accorded the attention a sick person should have. It is, however, not alone the physical care during the period between arrest and commitment which is at fault, it is rather more the investigation and the resulting judgment, i. e., the medical opinion which, generally speaking, is defective by reason of lack of knowledge and experience, and because of the insufficient time given to the examination. At a result the person's mental state is, on an average, only judged as to whether it deviates from the normal or not. In many instances the examiner has shown an inability to judge between mental symptoms of a purely phy-

* Read before the Sacramento Society for Medical Improvement, Dec. 20, 1910